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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,572	08/20/2000	Shmuel Peleg	383/03602	8253

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EXAMINER

LE, BRIAN Q

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 03/08/2005

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/642,572

Applicant(s)

PELEG ET AL.

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on July 14, 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 9, 18 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 15.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Election/Restrictions

1. Applicant's election without traverse of Invention I in the reply filed on July 14, 2004 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-5, 13-14, and 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 4, 13, and 22, the limitation "a second line segment determining module configured to determine a second line segment along a line defined by the first line segment, the second line segment being such that the distance between the end points corresponds to the distance between the end points of the first line segment and positioned along the line such the centroid of the end points of the second line segment corresponds to the vertical center of the one image, the quadrangular region corresponding to the two points on the vertical anchor in said one individual image and the end points of said second line segment." Is indefinite. The term "correspond" does not clearly disclose the concept of how the distance between end points and centroid of the end points corresponding to each other.

Claims not specifically addressed depend from indefinite antecedent claims.

Claim Objections

4. Claims 1-8, 10-17, and 19-26 are objected to because these claims are very difficult to understand due to the use of confusing language. Appropriate correction is required. The prior art rejection based on the Examiner's best understanding.

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Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-8, 10-17, and 19-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Szeliski U.S. Patent No. 6,157,747.

Regarding claim 1, Szeliski teaches a system for generating a mosaic image from a plurality of individual images (abstract, first 2 lines) comprising:

A. A quadrangular region defining module configured to define in one individual image a quadrangular region in relation to two points on a vertical anchor in the one individual image and mappings of two points on a vertical anchor in at least one other individual image into said one individual image (FIG. 3);

B. A warping module configured to warp the quadrangular region to a rectangular region (FIG. 18, element 1860 and FIG. 26, element 2620); and

C. A mosaicing module configured to mosaic the quadrangular region to the mosaic image (FIG. 3 and FIG. 26, element 2620).

For claim 2, Szeliski also teaches a system in which said two points on said vertical anchor in said one individual image comprise points at which the vertical anchor intersects upper and lower borders of said one individual image (FIG. 3, P2).

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Referring to claim 3, Szeliski further teaches a system in which the warping module is configured to smoothly interpolate between said quadrangular region and said rectangular region (column 27, lines 5-15 and lines 25-32).

Regarding claim 4, Szeliski teaches a system in which said quadrangular region defining module includes:

- A. A first vertical anchor point identifying module configured to identify two points on the vertical anchor in said one individual image (FIG. 3 and FIG. 28);
- B. A second vertical anchor point identifying module configured to identify two points in said one individual image at which the two points on the vertical anchor in said at least one other individual image map to said one individual image (FIG. 3 and FIG. 28);
- C. A first line segment determining module configured to determine a line segment between the two points in said one individual image at which the two points on the vertical anchor in said at least one other individual image map to said one individual image (lines between the points) (FIG. 3 and FIG. 28); and
- D. A second line segment determining module configured to determine a second line segment along a line defined by the first line segment, the second line segment being such that the distance between the end points corresponds to the distance between the end points of the first line segment (column 20, lines 48-50 and 63-67) and positioned along the line such that the centroid of the end points of the second line segment corresponds to the vertical center of the one image (center of image), the quadrangular region corresponds to the two points on the vertical anchor in said one individual image and the end points of said second line segment (column 9, 50-67).

Regarding claim 5, Szeliski teaches a system further including a vertical offset value generating module configured to generate an offset value to use in the mosaicing step for a rectangular region generated for said other individual image (the process of computing the deviations, motion estimation and misregistration) (column 25, 15-24)

For claim 6, Szeliski including the teaching of a system in which the quadrangular region defining module is configured to define two quadrangular regions on opposing sides of the vertical anchor, each in relation to mappings of two points (FIG. 32, element 3220) on a vertical anchor in at least two other individual images into said one individual image (FIG. 3 and FIG. 28).

For claim 7, Szeliski discloses a system in which the quadrangular region defining module is configured to define a left quadrangular region in relation to

- (i) mappings of the two points (FIG. 32, element 3220) on the vertical anchor in a left individual image into said one individual image (FIG. 3 and FIG. 28), and
- (ii) two points on the vertical anchor in said one individual image, shifted vertically in relation to a vertical offset (FIG. 3) between the center of the one individual image and the mapping (FIG. 32, element 3220) of the center of the left individual image to the one individual image (FIG. 24, FIG. 25A-FIG.25B).

Referring to claim 8, Szeliski teaches a system in which the quadrangular region defining module is configured to define a right quadrangular region in relation (FIG. 3 and FIG. 28) to

- (i) mappings (FIG. 32, element 3220) of the two points on the vertical anchor in a left individual image into said one individual image (FIG. 28) and
- (ii) said two points on the vertical anchor in said one individual image (FIG. 3 and FIG. 28).

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For claims 10-17, please refer back to claims 1-8 respectively for the teachings and explanations.

For claim 19, please refer back to claim 1 for the teachings and explanations. In addition, Szeliski further teaches a computer program product for use with a computer to provide a system for generating a mosaic image from a plurality of individual images (FIG. 2A), the computer program product comprising a machine readable medium (FIG. 2A, element 22, system memory).

For claims 20-26, please refer back to claims 2-8 for the teachings and explanations.

CONCLUSION

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to mosaic image:

U.S. Pat. No. 5,909,521 to Nakao, teaches Multi-shot still image reader.

U.S. Pat. No. 6,591,021 to Breiter, teaches method and apparatus for correcting the gray levels of images of a digital infrared camera.

U.S. Pat. No. 5,872,874 to Natarajan, teaches method for scaling down images that are provided in a compressed data format.

U.S. Pat. No. 6,356,278 to Stamm, teaches method for asymmetric supersampling rasterization of image data.

U.S. Pat. No. 6,249,613 to Crinon, teaches mosaic generation and sprite-based coding with automatic foreground and background separation.

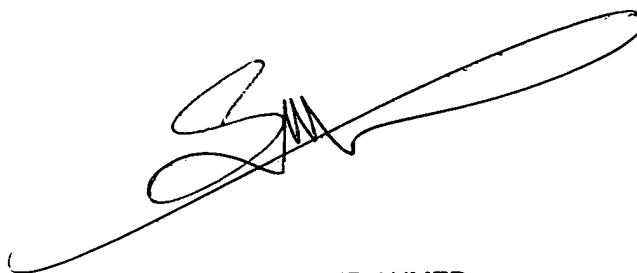
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL
March 1, 2005

A handwritten signature in black ink, appearing to read 'SAMIR AHMED', with a long, sweeping horizontal stroke extending to the left.

SAMIR AHMED
PRIMARY EXAMINER